

(B) Amendments to the Claims

The listing of claims below replaces all previous versions of the claims in the application.

- [c1] (Currently Amended) A method for determining interval ~~anelliptical~~anisotropic parameters, comprising:
determining normal moveout velocities and effective anelliptical parameters from seismic data traces; and
~~determining interval velocities from the normal moveout velocities;~~
inverting the normal moveout velocities and the effective anelliptical parameters ~~and interval velocities~~ to obtain the interval anelliptical parameters, the inverting comprising damped least squares inversion.
- [c2] (Canceled)
- [c3] (Original) The method of claim 1 further comprising preconditioning the inverting.
- [c4] (Original) The method of claim 1 wherein the inverting comprises solving a system of linear equations by conjugate gradients.
- [c5] (Currently Amended) The method of claim 1 wherein the determining normal moveout velocities and effective ~~interval~~anisotropic parameters are performed by scanning a time migrated trace gather, the time migrated trace gather accounting for ray bending.
- [c6] (Currently Amended) The method of claim 1 further comprising generating a prestack depth migrated image using the interval normal moveout velocities and interval anelliptical parameters.
- [c7] (Currently Amended) A computer program stored in a computer readable medium, the program including logic operable to cause a programmable computer

to perform steps, comprising:

determining normal moveout velocities and effective anelliptical parameters from seismic data traces;

~~determining interval velocities from the normal moveout velocities;~~

inverting the normal moveout velocities~~[[,]]~~and the effective anelliptical parameters ~~and interval velocities~~ to obtain interval anelliptical parameters, the inverting comprising damped least squares inversion.

[c8] (Canceled)

[c9] (Original) The computer program of claim 7 further comprising preconditioning the inverting.

[c10] (Original) The computer program of claim 7 wherein the inverting comprises solving a system of linear equations by conjugate gradients.

[c11] (Currently Amended) The computer program of claim 7 wherein the determining normal moveout velocities and effective ~~interval~~anelliptical parameters are performed by scanning a time migrated trace gather of the seismic data traces, the time migrated gather accounting for ray bending.

[c12] (Currently Amended) The computer program of claim 7 further comprising generating a prestack depth migrated image using the interval normal moveout velocities and interval anelliptical parameters.